



March 28, 1985

Ms. Wanda Kane
Office of Protected Species
National Marine Fisheries Service
U.S. Department of Commerce
Washington, D.C. 20235

Dear Ms. Kane:

Per our conversation of last week please find enclosed the necropsies you requested to complete our permit application for public display under the Marine Mammal Protection Act dated March 11, 1985.

They are as follows:

SWC Pv-8326
SWF Tt-8009
SWF Tt-12-9203
SWF Zc-2

If you have any further questions please do not hesitate to contact me.

Sincerely,

Jim Antrim,
Curator of Mammals

JA:dn
Enclosures

SEA WORLD, SAN DIEGO

NECROPSY REPORT

GENUS/SPECIES: Phoca vitulina I.D. NO. SWC Pv 8326
DATE/TIME OF DEATH: 7-10-84/1600 PATH. NO. SW 84269
DATE/TIME OF NECROPSY: 7-11-84/0800 SEX: male

CLINICAL HISTORY PRIOR TO DEATH: This animal was captive born at Sea World, San Diego. The animal was transferred to Scripps Institute of Oceanography June 13, 1984. On July 9 the animal suffered a traumatic injury resulting in the disuse of his rear flippers. The animal was transferred to Sea World, San Diego the following day. Physical examination revealed a five centimeter in diameter swelling along the midline at the lumbosacral junction. It was determined that there was no voluntary movement and no pain perception in the rear flippers. The animal was euthanized with sodium pentobarbital.

APPEARANCE The animal appears in good flesh with no external signs of injury or illness excepting the previously mentioned swelling.

WEIGHT _____ **LENGTH** _____ **GIRTH** _____

GROSS NECROPSY FINDINGS:

INTEGUMENT: unremarkable

MUSCULOSKELETAL: Considerable clotted blood is present subcutaneously, in the blubber, and around the spinal vertebrae at the junction of L₂ and L₃. Further dissection revealed a luxation of these two vertebrae with a two inch stair step inbetween. The spinal cord was severed at the luxation. Considerable blood was present in the spinal fluid.

RESPIRATORY: unremarkable

GROSS FINDINGS (continued):

DIGESTIVE: The stomach contains no ingesta and the mucosa is unremarkable. The small and large intestine contain a small amount of mucoid, digested material.

LIVER: unremarkable

STOMACH:

PANCREAS: unremarkable

INTESTINE:

UROGENITAL: unremarkable

ENDOCRINE: unremarkable

ADRENAL:

THYROID:

REPRODUCTIVE: unremarkable, male

LYMPHATICS: unremarkable

SPLEEN: unremarkable

NERVOUS SYSTEM: unremarkable

CARDIOVASCULAR SYSTEM: epidural vessel ruptured at site of luxation

I.D. NO: SWC Pv 8326

PATH. NO.: SW 84269

HISTOPATHOLOGY: lungs, heart, liver, spleen, pancreas, stomach, small intestine, large intestine, kidneys, adrenals, testes, bladder

PARASITES: none noted

CULTURES: none

DIAGNOSIS: euthanized due to irreversible traumatic luxation of spinal cord at L₂-L₃.

PRIMARY:

SECONDARY:

CURATOR: _____

VETERINARIAN: Brian E. Joseph

TECHNICIAN: _____

Sea World



NECROPSY REPORT

GENUS/SPECIES Tursiops truncatus ID NUMBER SWF-Tt-8009
DATE/TIME OF DEATH 10/5/84 @1630 hrs. DATE/TIME OF NECROPSY 10/5/84 @1700 hrs.
SEX Female WEIGHT 380 lbs. LENGTH 258 cm

CLINICAL HISTORY PRIOR TO DEATH Tha aged female had an uncomplicated delivery of a female calf on 9/9/84. The placenta was expelled in pieces on the same day. Within nine days of parturition this animal became inapetant. After an extensive physical examination, treatment was initiated for systemic bacterial infection. Initially, an improvement was noted however, a decline in the animal's health followed. Various modifications in treatment resulted in transient improvement followed by further decline and finally death.

GROSS FINDINGS: Thin

INTEGUMENT: Except for several minor, old, healed scars the integument was normal.

LUNGS: Rt. 2.2 kg, Lt. 2.36 kg. Both left and right lungs reveiled abscession throughout with the heaviest concentration of infection in the ventral areas. Individual lesions were 3-5 cm in diameter involving about one half of this tissues of the lungs.

HEART: .93 kg. Right ventricle slightly hypertrophied. No other abnormalites were observed.

LIVER: 6.32 kg. Capsule thick and opaque. Old scar tissue seemed to be contributing to the opacity in some areas. Parenchyma firmer than normal and containing miliary abscesses throughout. Organ edges were sharp and color of tissues on cross section was normal.

STOMACH: No abnormalities found.

PANCREAS: .3 kg. Many small (3mm in dia.) ecchymotic hemorrhages on most of serosal surface of this organ. On cross section, most hemorrhages extended into the parenchyma.



INTESTINE: Except for an abnormally large amount of gas formation,
this organ was normal.

SPLEEN: .08 kg. Congested, otherwise normal.

KIDNEY: Rt. .76 kg, Lt. .74 kg. Normal upon gross examination except for the
right kidney's abnormally pale coloration.

ADRENAL: One centimeter diameter ecchymotic hemorrhage of the peritoneal membrane
over the right adrenal ventrally. Both right and left adrenal appeared normal
on cross section.

UROGENITAL: Metritis producing a slight mucopurulent discharge into lumen.
Vaginitis which was also producing a slight mucopurulent discharge. Purulent
discharge also seen on cross section of right mammary gland.

NODES: Thoracic lymph nodes swollen and succulent. Abdominal nodes only
slightly swollen.

BRAIN: No abnormalities found.

THYROID: No abnormalities found.

PARASITES: None observed.

DIAGNOSIS

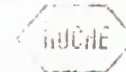
PRIMARY: Pneumonia, metritis, mastitis, and hepatitis complicated by advanced age.

SECONDARY:

VETERINARIAN Robert O. Stevens, D.V.M.

CURATOR Glenn Young TECHNICIAN Gregg Case

Tursiops truncatus		Tt 8009	F	adult	2/26/85	V-163-85
SEA WORLD OF FLORIDA		09508010		I.D. NO.		ROOM NO.
				SURGEON(S)		



**ROCHE BIOMEDICAL
LABORATORIES IN**
1400 NORTH PALAFOX STREET
PENSACOLA, FLORIDA 32501

Large massive portions of three sections of the lung reveal complete replacement of the parenchyma by solid neutrophils. There are also large areas of necrosis in the pneumonic lung. The lung is recognizable only by the cartilage of the bronchi, due to the severity of the acute inflammatory infiltrate. There is a diffuse, moderate extramedullary hematopoiesis and hemosiderosis throughout the liver. The mammary gland has a diffuse, chronic, inflammatory process and fibrosis present. ONLY a few normal dilatated protein-filled alveoli are seen. The muscular coat and serosa of the uterus are invoked in a granulomatous reaction. The mucosal-endometrium is edematous.

FINAL PATHOLOGIC DIAGNOSIS:

1. Diffuse, acute, severe necrotizing purulent, lobar pneumonia, lung, Tursiops truncatus
2. Extramedullary hematopoiesis with hemosiderosis, diffuse, moderate, liver
3. Subacute, diffuse, mastitis, severe, mammary gland
4. Metritis, diffuse, chronic, marked, uterus

Richard J. Brown

RICHARD J. BROWN, D.V.M., PATHOLOGIST



NECROPSY REPORT

GENUS/SPECIES Tursiops truncatus ID NUMBER SWF-Tt-12-9203
DATE/TIME OF DEATH 7-20-84 0300 hrs. DATE/TIME OF NECROPSY 7-20-84 0730 hrs.
SEX Female WEIGHT 167.8 kg LENGTH 256.5 cm

CLINICAL HISTORY PRIOR TO DEATH Animal has a history of chronic inappetance.

On at lease two previous occasions she was judged to be near death. On both
occasions, after a lengthy and involved treatment, she recovered. Two days
prior to the death of this animal, she again showed inappetance.

GROSS FINDINGS: Thinner than normal, but weight and flesh at necropsy much
improved compared to that taken less than one month prior to death.
INTEGUMENT: Skin normal in color and tone.

LUNGS: Ventral aspect of left lung inflammed over pericardium. Parenchyma
of both lungs pale on cross section (L. lung - 1.8 kg; R. lung - 1.9 kg).

HEART: Normal (weight - 0.89 kg).

LIVER: Normal color and consistency on cross section. Capsule appeared
to be thickened by age and showed areas of old, healed scars. Organ edges
were sharp (weight - 4.6 kg).

STOMACH: Please see attached.

PANCREAS: Normal color and consistency except for a small imflammed area on
the serosal surface adjacent to the above mention abscessation.



ID NUMBER SWF-Tt-12-9203

INTESTINE: Normal except for fibrin tags on the serosal surface randomly.

SPLEEN: Normal consistency but slightly more pale than normal (weight -
0.08 kg).

KIDNEY: Normal on gross examination except for a few fibrin tags on
serosal surface of peritoneal covering of the organ (L. kidney - 0.48 kg;
R. kidney 0.49 kg).

ADRENAL: Normal.

UROGENITAL: Normal, non-pregnant female.

NODES: Abdominal lymph nodes swollen grossly and succulent on cross section.

BRAIN: Normal.

THYROID: Normal.

PARASITES: None observed.

DIAGNOSIS

PRIMARY: Abdominal abscess with resultant peritonitis.

SECONDARY: Exsanguination abdominally resulting from chronic abdominal infection.

VETERINARIAN Robert O. Stevens, D.V.M.

CURATOR W. Glenn Young

TECHNICIAN Gregory P. Case

STOMACH: Old scar at junction of white and red stomach which showed recent inflammation. Inflamed and necrotic tract of the above old perforation leading to an abscess on the serosal surface of the white and the red stomachs. The infection was originally contained by the omentum which is inflamed and contains several large blood vessels, one of which has been invaded by the abscess allowing an extensive loss of blood into the abdomen.

new
ANIMAL PATHOLOGY SERVICES

John G. Simpson DVM
923 Garrido Drive
Camarillo, Ca. 93010
Ph.805 498 3684

CASE # 8-84:8856

DATE 9-1-84

SPECIES T. truncatus, Fe.
SWF-Tt-12-9203

SPECIMEN Necropsy tissues

BY Dr. D.O. Beusse
Sea World, Fla.

OWNER Sea World, Inc.

PATHOLOGY REPORT

DIAGNOSIS See Below

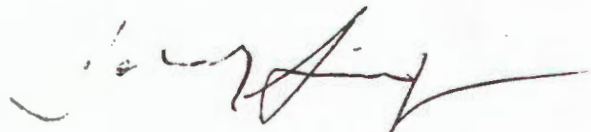
COMMENT

Spleen, adrenal, myocardium, cerebral and cerebellar tissue, thyroid, and kidney show no significant pathologic change.

Lung tissue is moderately congested, but does not present evidence of inflammation. The liver parenchyma is essentially normal except for some retention of bile pigment within hepatocyte cytoplasm. This suggests possible increased RBC destruction, or resistance to outflow.

Several specimens are seen consisting of fibrino-necrotic material containing inflammatory cell infiltrates. Any landmarks which would identify the source of this material are absent, but the gross description, indicates that these could be from the omental-stomach lesion.

The gross diagnosis of peritonitis and exsanguination, could not be disputed on the basis of the tissues reviewed microscopically.



JOHN G. SIMPSON DVM

PATIENT NAME

SEX

AGE

DATE

SPECIMEN NO.

Tursiops truncatus Tt-12-9203

F

8/14/84

V-537-84

ACCOUNT

I.D. NO.

ROOM NO.

SEA WORLD OF FLORIDA

SURGEON(S)

ROCHE

ROCHE BIOMEDICAL
LABORATORIES INC1400 NORTH PALAFOX STREET
PENSACOLA, FLORIDA 32501

SURGICAL PATHOLOGY REPORT

The most significant lesion is a tag of what appears to be the junction of the white and red stomach which consists of a massive fibrosis and young collagen with borders of acute inflammatory cells and massive bacterial overgrowth lying along the surface. This long lesion is capable of being the perforating entity described grossly by the proscetor. The lung contains multiple focal accumulations of chronic inflammatory cells in the interstitium. A few foci of chronic inflammatory cells are found also in the renal interstitium.

FINAL PATHOLOGIC DIAGNOSIS:

1. Perforation, with acute inflammation and fibrosis, stomach, Tursiops truncatus
2. Inflammation, chronic, multifocal, mild, lung (interstitium)
3. Inflammation, chronic, multifocal, mild, kidney (interstitium)
4. Hyperplasia, lymphoid, diffuse, moderate, mesenteric lymph nodes



RICHARD J. BROWN, D.V.M., PATHOLOGIST



NECROPSY REPORT

GENUS/SPECIES Zalophus californianus ID NUMBER SWF-Zc-2
DATE/TIME OF DEATH 28/Nov. 84 @0330 hr DATE/TIME OF NECROPSY 28/Nov. 84 @0930 hrs.
SEX Male WEIGHT 475 lbs. LENGTH 210.8 cm

CLINICAL HISTORY PRIOR TO DEATH Behavior and food intake of this aged patient was normal until three days prior to death, at which time he became inappetant and lethargic. Two days prior to death a blood study was completed and antibiotic therapy was instituted. Some improvement in appearance was noted during the afternoon of this day and five pounds of fish was eaten by the evening, However, on November 27, the animal's condition had deteriorated. Addition efforts at improving the patients condition did not succeed and the animal died at 0330 hrs. on Nov. 28th.

GROSS FINDINGS: Aged animal

INTEGUMENT: No abnormalities found with integument, eyes contained hypermature cataracts bilaterally.

LUNGS: Rt. 3.23 kg, Lt. 3.16 kg. - Congested with a few small (2 cm in diameter) areas of ischemia showing emphysema.

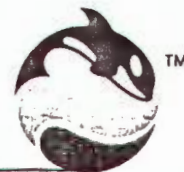
HEART: .98 kg. No abnormalities found.

LIVER: 7.58 kg Greyish white capsule that was more opaque than normal. Organ edges were sharp. Parenchyma much firmer than normal and color was more pale than normal.

STOMACH: 2.14 kg Normal esophagus. One old healed ulcer approx. .50 cm, in diameter in stomach.

PANCREAS: 0.36 kg. No abnormalities found.

ID NUMBER SWF-Zc-2



INTESTINE: Please see attached:

SPLEEN: 0.36 kg. Serosal surface thick and grey in color. Organ edges sharp.
Normal color and consistency on cross section.

KIDNEY: Rt. 0.64 kg, Lt. 0.60 kg. Peritoneal covering cloudy. Capsule
thickened and both organs were congested upon cross section.

ADRENAL: No abnormalities found.

UROGENITAL: Bladder contained few small areas of congestion.

NODES: Mesenteric and abdominal lymph nodes in general were hypertrophied,
hyperemic and succulent.

BRAIN: 0.42 kg. No abnormalities found.

THYROID: No abnormalities found.

PARASITES: None observed.

DIAGNOSIS

PRIMARY: Peritonitis resulting from perforation of the colon. Advanced age.

SECONDARY:

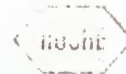
VETERINARIAN Robert O. Stevens, D.V.M.

CURATOR Glenn Young

TECHNICIAN Gregg Case

INTESTINE: Congested serosal surface along entire length of intestine. Mesentery diffusely hemorrhagic. Many ulcers(0.35 cm in diameter)in posterior intestinal tract. Perforation of large bowel within ulcerous area, leaking bowel contents into the abdominal cavity which contained approximately 5 gallons of fetid reddish brown liquid.

PATIENT NAME Zc50,007 Zalophus californianus (Gabby)	SEX F	AGE adult	DATE 2/26/85	SPECIMEN NO. V-161-85
ACCOUNT SEA WORLD OF FLORIDA 09508010			I.D. NO.	ROOM NO.
			SURGEON(S)	



**ROCHE BIOMEDICAL
LABORATORIES IN**
1400 NORTH PALAFOX STREET
PENSACOLA, FLORIDA 32501

The three sections of lung reveals diffuse, marked congestion with multifocal hemorrhage into the alveoli. Focal accumulations of chronic, inflammatory cells are present throughout the lung. There are areas of ruptured interalveolar septa, perhaps an agonal change. There is marked atrophy of the spleen with a complete loss of all of the germinal centers and most of the red pulp. The spleen consists mostly of trabeculae and pigment-bearing macrophages. There are large chunks of chronic and acute inflammatory cells which are invading mesenteric fat and being walled off by thick capsules. There are large areas of necrosis of the intestinal wall. The renal tubular, epithelial cells are diffusely swollen and they obliterate the tubular lumen. The meningies of the brain are slightly thickened and hypercellular.

FINAL PATHOLOGIC DIAGNOSIS:

1. Diffuse, acute, severe peritonitis, peritoneal cavity, Sea Lion, consistent with perforation of lower bowel
2. Diffuse, severe pulmonary alveolar hemorrhage with multifocal, chronic inflammation, lung
3. Emphysema, diffuse, long (agonal change)
4. Splenic atrophy and hypoplasia, diffuse, marked, spleen
5. Necrosis, diffuse, marked, intestinal wall
6. Cloudy swelling, diffuse, moderate, renal tubular epithelium, kidney

COMMENT: These findings are either directly related to or secondary to the acute peritonitis.

Richard J. Brown

RICHARD J. Brown, D.V.M., Pathologist